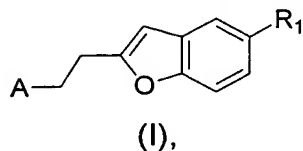


WHAT IS CLAIMED IS:

1. A process for preparing a compound of formula (I):



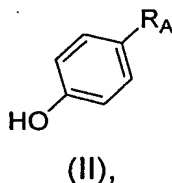
or a salt thereof, wherein

A is heterocycle selected from pyrrolidinyl or piperidinyl, wherein the heterocycle is substituted with 0, 1, 2, 3, or 4 substituents selected from the group consisting of alkyl and fluoroalkyl; and

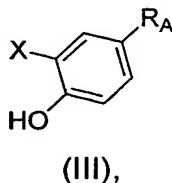
R₁ is 4-cyanophenyl, aryl, or heteroaryl, wherein the phenyl of 4-cyanophenyl, the aryl, or the heteroaryl is substituted with 0, 1, 2, 3, or 4 substituents selected from the group consisting of alkoxy, alkoxyalkyl, alkyl, alkylthio, alkylthioalkyl, cyano, haloalkoxy, halogen, and haloalkyl;

the process comprising the steps of:

(1a) treating a compound of formula (II),

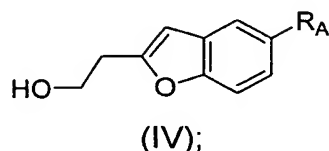


wherein R_A is selected from the group consisting of bromo, chloro, 4-cyanophenyl, aryl, and heteroaryl, and the phenyl portion of the 4-cyanophenyl, the aryl, and the heteroaryl are substituted with 0, 1, 2, 3, or 4 substituents selected from the group consisting of alkoxy, alkoxyalkyl, alkyl, alkylthio, alkylthioalkyl, cyano, haloalkoxy, halogen, and haloalkyl, with a halogenating reagent selected from the group consisting of N-bromosuccinimide, N-iodosuccinimide, N-iodoacetamide, N-bromoacetamide, N-iodophthalimide, N-bromophthalimide, iodine, bromine, ICl, IBr, and BrCl, to provide a compound of formula (III),

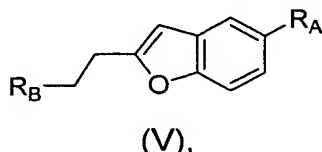


wherein X is Br or I;

(1b) treating the compound of formula (III) with 3-butyn-1-ol to provide a compound of formula (IV),

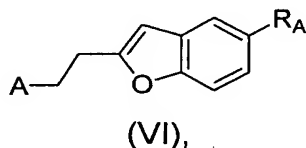


5 (1c) treating the compound of formula (IV) with a sulfonating reagent to provide a compound of formula (V),



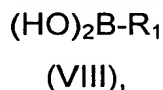
wherein R_B is toluenesulfonate, methanesulfonate, or
10 trifluoromethanesulfonate, and

(1d) treating the compound of formula (V) with an amine reagent, selected from the group consisting of pyrrolidinyl and piperidinyl, wherein the pyrrolidinyl or piperidinyl is substituted with 0, 1, 2, 3, or 4 substituents selected from the group consisting of alkyl and fluoroalkyl, to provide the
15 compound of formula (VI),

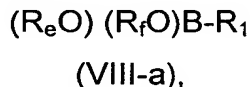


wherein A is as defined above for a compound of formula (I), and

(1e) further treating the compound of formula (V), wherein R_A is bromo
20 or chloro, with a compound of formula (VIII),



or a compound of formula (VIII-a),



wherein R₁ is 4-cyanophenyl, aryl, or heteroaryl, wherein the phenyl of 4-cyanophenyl, the aryl, or the heteroaryl is substituted with 0, 1, 2, 3, or 4 substituents selected from the group consisting of alkoxy, alkoxyalkyl, alkyl, alkythio, alkythioalkyl, cyano, haloalkoxy, halogen, and haloalkyl; and R_e and
30

R_f are each independently alkyl or R_e and R_f are taken together to form a ring, wherein the ring is substituted with 0, 1, 2, 3, or 4 substituents selected from the group consisting of alkyl or aryl.

5 2. The process according to claim 1 wherein R₁ is 4-cyanophenyl.

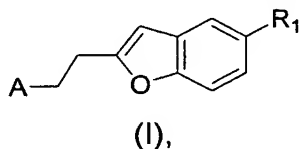
 3. The process according to claim 2 wherein the halogenating reagent in step (1a) is N-bromosuccinimide or N-iodosuccinimide.

10 4. The process according to claim 1 wherein A is (2R)-2-methylpyrrolidinyl.

 5. The process according to claim 1 wherein R_B in a compound of formula (V) represents a toluenesulfonate group.

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 6. A process for preparing a compound of formula (I):



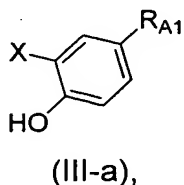
or a salt thereof, wherein

20 A is heterocyclic group selected from pyrrolidinyl or piperidinyl, wherein the heterocycle is substituted with 0, 1, 2, 3, or 4 substituents selected from the group consisting of alkyl and fluoroalkyl; and

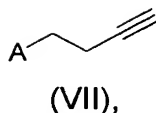
 R₁ is 4-cyanophenyl;

 the process comprising the steps of:

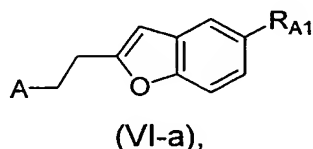
25 (6a) treating a compound of formula (III-a),



30 wherein R_{A1} is selected from the group consisting of bromo, chloro, 4-cyanophenyl; with a compound of formula (VII),

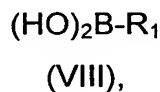


wherein A is a heterocyclic group selected from the group consisting of pyrrolidinyl and piperidinyl, said heterocyclic group substituted with 0, 1, 2, 3, or 4 substituents selected from the group consisting of alkyl and fluoroalkyl, to provide a compound of formula (VI-a),

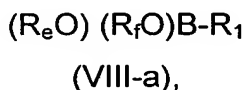


wherein R_{A1} and A are as defined above; and

(6b) further treating the compound of formula (VI-a), wherein R_{A1} is bromo or chloro, with a compound of formula (VIII),



or a compound of formula (VIII-a),



wherein R_1 is 4-cyanophenyl; and R_e and R_f are each independently alkyl or aryl. R_e and R_f are taken together to form a ring, wherein the ring is substituted with 0, 1, 2, 3, or 4 substituents selected from the group consisting of alkyl or aryl.

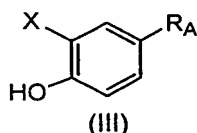
7. The process according to claim 6 wherein the compound of formula (III-a) in step 6a is reacted with the compound of formula (VII) and a palladium catalyst, metal halide, and base, wherein the palladium catalyst is selected from the group consisting of tetrakis(triphenylphosphine)palladium, (dibenzylideneacetate)palladium, (tris(dibenzylideneacetate)dipalladium, bis(tricyclohexylphosphine)palladium, (2-(diphenylphosphino)ethyl)palladium, (1,1'-bis(diphenylphosphino)ferrocene)palladium, bis(triphenylphosphine)dichloropalladium, bis(1,1'-bis(diphenylphosphino)ferrocene)palladium, bis(2-(diphenylphosphino)ethyl)dichloropalladium, and $PdCl_2(CH_3CN)_2$.

8. The process according to claim 7 wherein the palladium catalyst is bis(triphenylphosphine)dichloropalladium ($\text{PdCl}_2(\text{Ph}_3\text{P})_2$).

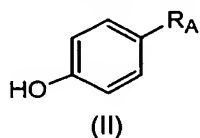
9. The process according to claim 7 wherein the metal halide is copper(I) iodide and the base is diisopropylamine.

10. The process according to claim 6 wherein A is (2R)-2-methylpyrrolidinyl.

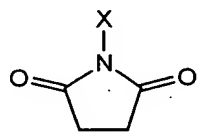
11. A process for preparing a compound of the formula:



wherein X is bromo or iodo and R_A is selected from the group consisting of bromo, chloro, 4-cyanophenyl, aryl, and heteroaryl, wherein the phenyl portion of 4-cyanophenyl, the aryl, or the heteroaryl group is substituted with 0, 1, 2, 3, or 4 substituents selected from the group consisting of alkoxy, alkoxyalkyl, alkyl, alkylthio, alkylthioalkyl, cyano, haloalkoxy, halogen, and haloalkyl, comprising the step of treating a compound of the formula (II),

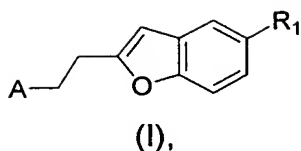


wherein R_A is as previously defined, with a halogenating reagent of the formula:



wherein X is bromo or iodo to provide a compound of the formula (III).

12. The process according to claim 11 further comprising the step for preparing a compound of formula (I):



or a salt thereof, wherein

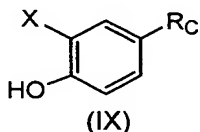
A is heterocyclic group selected from pyrrolidinyl or piperidinyl, wherein the heterocycle is substituted with 0, 1, 2, 3, or 4 substituents selected from the group consisting of alkyl and fluoroalkyl; and

R₁ is 4-cyanophenyl wherein the phenyl of 4-cyanophenyl is substituted with 0, 1, 2, 3, or 4 substituents selected from the group consisting of alkoxy, alkoxyalkyl, alkyl, alkylthio, alkylthioalkyl, cyano, haloalkoxy, halogen, and haloalkyl; by chemically processing a compound of formula (III).

13. The process according to claim 11 wherein the halogenating reagent is N-iodosuccinimide.

14. Compounds prepared according to the processes of claims 1, 6, and 11.

15. A compound of the formula:



wherein X is bromo or iodo and R_C is 4-cyanophenyl.